



*Grapevine's water system  
has a "Superior" rating*

# 2009

*City of Grapevine*

## **ANNUAL DRINKING WATER QUALITY REPORT**

*Consumer Confidence Report*

*If you have questions about the  
quality of your drinking water or to  
schedule a meeting, please call  
817.410.3330.*

*Si tiene preguntas sobre la Calidad  
del Agua que Bebe, por favor llamar  
al numero 817.410.3330.*



City of Grapevine Water Treatment  
P.O. Box 95104 • Grapevine, Texas 76099



# Why?

## Why are you receiving this report?

This report provides you information on the quality of your drinking water. This report includes information on water source(s), levels of detected contaminants and compliance with drinking water rules. The Environmental Protection Agency (EPA) requires that all water suppliers mail this report every year.

## En Español

Este informe incluye la información importante sobre el agua para potable. Si tiene preguntas o comentarios sobre éste informe en español, favor de llamar al tel. (817) 410-3330 par hablar con una persona bilingüe en español.

## Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements

Providing safe and reliable drinking water is our highest priority. We are proud to produce and deliver water that meets or exceeds state and federal standards. This report is a summary of the quality of the water we provide our customers. The analysis was made by using data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the following pages. We hope this information helps you become more knowledgeable about what's in your drinking water.

## Special Notice for The Elderly, Infants, Cancer Patients, People With HIV/AIDS or Other Immune Problems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders; some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The (EPA)/ Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

## All Drinking Water May Contain Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that water poses a health risk. When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices. More information about contaminants and potential health effects may be obtained by calling EPA's Safe Drinking Water Hotline (1-800-426-4791).

## Awards

The City of Grapevine received the EPA Award for Excellence in 1992, 1995, and 1998 for the best maintained and operated water system for Region VI for water systems of similar size. Region VI consists of Texas, New Mexico, Arkansas, Louisiana and Oklahoma. In 1991, 1998, 2001 and 2004 the City of Grapevine's water was awarded the best tasting water award in North Central Texas, by the North Texas Laboratory Association. The City of Grapevine was awarded the best tasting water in Texas in March 2002. In 1994, the Trinity River Authority water was awarded the best tasting water in North Central Texas by the North Texas Laboratory Association.



# Where?

## Where do we get our drinking water?

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants and organic chemical contaminants.

Grapevine uses surface water from Lake Grapevine and purchased water from the Trinity River Authority (TRA). TRA water is pumped from Cedar Creek Reservoir and Richland-Chambers Reservoir into Lake Arlington.

A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by the Texas Commission on Environmental Quality. The report will describe the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment will allow us to focus on our source water protection strategies. Some information will be available later this year on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>. For more information on source water assessments and protection efforts, please contact us or go to <http://www.epa.gov/safewater/protect.html>.

## Lake Water Treatment

At the Grapevine and TRA water treatment plants, the lake water goes through several treatment processes where chemicals such as chlorine, ozone, alum, fluoride, caustic soda, ammonia, potassium permanganate and polymer are added to purify the water. After the water is purified, it is pumped into your homes through more than 280 miles of distribution pipelines.

## Definitions (and explanation of terms used in the enclosed tables)

**Maximum Contaminant Level Goal (MCLG)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Contaminant Level (MCL)** - The highest permissible level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Residual Disinfectant Level (MRDL)** The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**Treatment Technique** - A required process intended to reduce the level of a contaminant in drinking water.

**Action Level** - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

**Turbidity** - A measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

## Abbreviations

**NTU - Nephelometric Turbidity Units**

**ppm - parts per million, or milligrams per liter (mg/L)**

**ppb - parts per billion, or micrograms per liter (µg/L)**

**pCi/L - picocuries per liter (a measure of radioactivity)**

**MFL - million fibers per liter (a measure of asbestos)**

**ppt - parts per trillion, or nanograms per liter**

**ppq - parts per quadrillion, or picograms per liter**

**ND - Not Detected**

**NA - Not Applicable**





## ABOUT THE FOLLOWING PAGES

The pages that follow list all of the federally regulated or monitored contaminants that have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants. Both Grapevine and TRA results are included.

### REGULATED AT THE CUSTOMER'S TAP

Year (Range)	Contaminant	The 90 <sup>th</sup> Percentile	Number of sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
2007	Lead	2.100	0	15	ppb	Corrosion of household plumbing systems; Erosion of natural deposits.
2007	Copper	0.1880	0	1.3	ppm	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. This water supply is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

### ORGANIC CONTAMINANTS

Year (Range)	Contaminant	Grapevine Highest Level	TRA Highest Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2009	Atrazine	0.42	0.11	0.11	0.42	3	3	ppb	Runoff from herbicide used on row crops.
2009	Simazine	0.19	0.11	0.11	0.19	4	4	ppb	Herbicide runoff.

### INORGANIC CONTAMINANTS

Year (Range)	Contaminant	Grapevine Highest Level	TRA Highest Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
GPV / TRA 2002 / 2008	Barium	0.049	0.0514	0.049	0.0514	2	2	ppm	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits.
GPV / TRA 2002 / 2008	Chromium	ND	0.00107	ND	0.00107	0.1	0.1	ppm	Discharge from steel and pulp mills; Erosion of natural deposits
2009	Fluoride	0.99	0.17	0.17	0.99	4	4	ppm	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2009	Nitrate	0.31	0.11	0.11	0.31	10	10	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
2002	Selenium	2.8	-	2.8	2.8	50	50	ppb	Discharge from mines, petroleum, metal refineries; Erosion of natural deposits.
GPV / TRA 2005 / 2008	Gross Beta Emitters	3.8	4.6	3.8	4.6	50	0	(pCi/L)	Decay of natural and manmade deposits.

### TURBIDITY

Year (Range)	Contaminant	Grapevine Highest Single Measurement	Grapevine Lowest Monthly % of Samples Meeting Limits	TRA Highest Single Measurement	TRA Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2009	Turbidity	0.20	100%	0.21	100%	0.30	NTU	Soil runoff.

Turbidity (NTU) has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

## UNREGULATED CONTAMINANTS GRAPEVINE WATER (1) TRA WATER (2)

Year (Range)	Contaminant	Average Level (1)	Minimum Level (1)	Maximum Level (1)	Average Level (2)	Minimum Level (2)	Maximum Level (2)	Units of Measure	Source of Contaminant
2009	Chloroform	14.8	14.8	14.8	18.9	16.3	21.5	ppb	Byproduct of drinking water disinfection
GPV / TRA 2009 / 2008	Bromoform	2.0	2.0	2.0	1.2	0.8	1.5	ppb	
2009	Bromodichloromethane	20.0	20.0	20.0	15.6	15.2	15.9	ppb	
2009	Dibromochloromethane	13.0	13.0	13.0	7.7	7.1	8.5	ppb	

## DISINFECTION BY-PRODUCTS

Year (Range)	Contaminant	Average Level (1)	Minimum Level (1)	Maximum Level (1)	Average Level (2)	Minimum Level (2)	Maximum Level (2)	MCL	Unit of Measurement	Source of Contaminant
2009	Total Trihalomethanes	45.8	37.1	53.6	45.7	45.7	45.7	80	ppb	Byproduct of drinking water disinfection
2009	Total Haloacetic Acids	21.6	12.6	26.8	24.4	24.4	24.4	60	ppb	

## UNREGULATED INITIAL DISTRIBUTION SYSTEM EVALUATION FOR DISINFECTION BY-PRODUCTS

The evaluation is sampling required by EPA to determine the range of total trihalomethane and haloacetic acid in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. EPA also requires the data to be reported here.

Year (Range)	Contaminant	Average of All Sampling Points	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2007	Total Trihalomethanes	46.3	24.5	70.6	NA	ppb	Byproduct of drinking water disinfection
2007	Total Haloacetic Acids	18.3	0	31.9	NA	ppb	

## DISINFECTANT RESIDUALS

Year (Range)	Disinfectant	Annual Average (high)	Minimum Level	Maximum Level	MRDL	MCLG	Units of Measure	Source
2009	Chloramines	2.76	0.7	4.1	4	<4.0	ppm	Disinfectant used to control microbes.

## TOTAL ORGANIC CARBON (TOC) GRAPEVINE WATER (1) TRA WATER (2)

Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include Trihalomethanes (THM's) and Haloacetic acids (HAA) which are reported elsewhere in this report.

\*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

Year (Range)	Contaminant	Average Level (1)	Minimum Level (1)	Maximum Level (1)	Average Level (2)	Minimum Level (2)	Maximum Level (2)	Units of Measure	Source
2009	Source Water	4.9	4.5	5.5	5.6	5.0	6.9	ppm	Naturally present in the environment
2009	Drinking Water	3.1	2.6	3.4	3.4	2.8	4.0	ppm	Naturally present in the environment
2009	Removal Ratio	1.10	1.00	1.47	1.16	1.00	1.26	% Removal*	NA

## CRYPTOSPORIDIUM MONITORING INFORMATION

**Cryptosporidium** is a microbial pathogen that may be found in water contaminated by feces. Although filtration removes *Cryptosporidium*, it cannot guarantee 100 percent removal nor can the testing methods determine if the organisms are alive and capable of causing cryptosporidiosis, an abdominal infection with nausea, diarrhea and abdominal cramps that may occur after ingestion of contaminated water.

### CRYPTOSPORIDIUM MONITORING INFORMATION

Year (Range)	Source Water	Positive Samples	Unit of Measure
8/2006 to 8/2008	Lake Grapevine Water (GPV)	ND	Organisms per liter
3/2004 to 2/2006	Lake Arlington Water (TRA)	0.10	Organisms per liter

\*Drinking water obtained from Lake Arlington. Flow from Cedar Creek and Richland Chambers reservoirs is pumped to Lake Arlington to maintain lake levels during dry periods. Samples were collected from all three reservoirs monthly from March 2004 through February 2006 and analyzed for the presence of *Cryptosporidium* in accordance with the Long Term Stage 2 Enhanced Surface Water Treatment Rule. Of the 72 samples collected, only two samples were found to contain *Cryptosporidium* at a measurable level of 0.1 organisms per liter of water sampled (one organism in each of the two samples).

## COLIFORMS

**Total Coliform** bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are harder than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Year	Contaminant	Highest Monthly % of Positive Samples	MCL	Unit of Measure	Source of Contaminant
2009	Total Coliform Bacteria	1.9	*	Presence	Naturally present in the environment

\* Presence of coliform bacteria in 5% or more of the monthly samples.

**Fecal Coliform** REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA

## SECONDARY CONSTITUENTS

Many constituents (such as calcium, sodium or iron) which are often found in drinking water can cause taste, color and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not EPA. These constituents are not causes for health concerns. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance, taste and odor of your water.

### SECONDARY AND OTHER CONSTITUENTS NOT REGULATED (NO ASSOCIATED ADVERSE HEALTH EFFECTS) GRAPEVINE WATER (1) TRA WATER (2)

Year (Range)	Constituent	Average Level (1)	Minimum Level (1)	Maximum Level (1)	Average Level (2)	Minimum Level (2)	Maximum Level (2)	Limit	Units of Measure	Source of Constituent
GPV / TRA 2002 / 2008	Aluminum	0.055	0.055	0.055	0.0439	0.0439	0.0439	50	ppm	Abundant naturally occurring element.
2009	Biocarbonate	100	100	100	86	86	86	NA	ppm	Corrosion of carbonate rocks such as limestone.
GPV / TRA 2002 / 2008	Calcium	46.6	46.6	46.6	36.7	36.7	36.7	NA	ppm	Abundant naturally occurring element.
2009	Chloride	30.6	30.6	30.6	17.4	17.4	17.4	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
2002	Iron	10	10	10	22	22	22	300	ppb	Erosion of natural deposits; iron or steel water delivery equipment of facilities.
GPV / TRA 2002 / 2008	Copper	0.016	0.016	0.016	0.00993	0.00993	0.00993	NA	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
GPV / TRA 2002 / 2008	Magnesium	6.61	6.61	6.61	4.32	4.32	4.32	NA	ppm	Abundant naturally occurring element
GPV / TRA 2002 / 2008	Manganese	ND	ND	ND	0.00366	0.00366	0.00366	0.05	ppm	Naturally occurring element.
2009	pH	8.00	8.00	8.00	8.30	8.30	8.30	7	units	Measure of corrosivity of water.
2009	Sodium	37.3	37.3	37.3	24.3	24.3	24.3	NA	ppm	Erosion of natural deposits; byproduct of oil field activity.
2009	Sulfate	66.0	66.0	66.0	40.8	40.8	40.8	NA	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2009	Total Alkalinity as CaCO <sub>3</sub>	100	100	100	86	86	86	NA	ppm	Naturally occurring soluble mineral salts.
2009	Total Dissolved Solids	253	253	253	203	203	203	1000	ppm	Total dissolved mineral constituents in water.
2008	Total Hardness as CaCO <sub>3</sub>	136	136	136	110	110	110	NA	ppm	Naturally occurring calcium.

# INDOOR

## Indoor Water Conservation Tips

### **Tips For Saving Water In The Laundry Room:**

**Wash dark clothes in cold water.** Using cold water not only saves energy but it helps preserve the colors.

**Put a stopper in it.** For hand laundering, put a stopper in the washtub for both washing and rinsing. Don't let the faucet run.

**Adjust water level.** When doing laundry, match the water level to the size of the load.

### **Tips For Saving Water In The Kitchen:**

**Put water to multiple uses.** Wash your fruits and vegetables in a pan of water in the sink instead of running water from the tap and then collect the water used for rinsing to water your houseplants.

**Put each cube to work.** If you drop a piece of ice from your icemaker or remove clogged ice, don't throw it down the drain. Use the ice to water house plants.

**Soak pots and pans.** Letting the water run while you scrub them clean wastes water and your time.

**Cut back on the rinse cycle.** A newer model dishwasher cleans more thoroughly than an older model; therefore, you can cut back on the number of rinse cycles.

**Defrosting food.** For water efficiency and food safety, don't use running water to defrost food products. It is best to thaw food items in the refrigerator or microwave.

### **Tips For Saving Water In The Bathroom:**

**Shower smarter.** Showering uses less water than bathing in the bathtub. Shortening your shower by only an minute or two can save up to 150 gallons per month. If you do decide to use your bathtub, plug the tub before turning the water on and then adjust the temperature as the tub fills.

**Don't let the water run.** While brushing your teeth, turn the water off. This saves up to 25 gallons of water monthly. Turning water off while shaving can save up to 300 gallons monthly and turning it off when washing your hair saves up to 150 gallons monthly.

**Use a water-efficient showerhead.** They are inexpensive, easy to install and can save you up to 750 gallons of water monthly.

**Listen for dripping faucets and running toilets.** Fixing a leak can save as much as 300 gallons or more monthly. Teaching children to turn off faucets tightly will help eliminate dripping faucets. Monitoring your water bill for unusually high usage can help alert you to leaks or drips.



**SAVE WATER. Nothing can replace it.**





City of Grapevine  
Water Treatment  
P.O. Box 95104  
Grapevine, Texas 76099

**PRESORTED STD  
US POSTAGE  
PAID  
GRAPHICS 2**

**ECRWSS**

## Postal Patron

### OUTDOOR Helpful Outdoor Water Conservation Tips

**Have fun in the sun.** Do your kids want to cool off from the hot summer sun? Set up the sprinkler in an area of your yard that needs watering and let them run through it. Avoid recreational water toys that require a constant water flow.

**Place your plants carefully.** Group plants with the same watering needs together. This will keep you from over or under watering.

**Pets can pitch in too.** When you bathe your pet, do so in an area of your lawn that needs watering. Also when giving your pets fresh water, pour the old water on a plant or shrub instead of tossing it down the sink.

**Be a responsible pool owner.** If your pool has an automatic refilling device, check your pool periodically for leaks. Cover your pool when not in use to avoid evaporation.

**Create new outdoor spaces.** Walkways, patios and rock gardens don't need to be watered. They create visual interest in your yard and provide useful outdoor living spaces that can add value to your home.

**Adjust your lawnmower to a higher setting.** A taller lawn shades roots and holds soil moisture better than if it is closely clipped.

# SAVE WATER. Nothing can replace it.

**Water your lawn before 10 a.m. or after 6 p.m.** Why? The City of Grapevine has an ordinance prohibiting watering from 10 a.m. to 6 p.m. in an effort to minimize waste. Up to 30 percent of the water sprayed on lawns during the heat of the day can be lost to evaporation.